

Work Order ID 112238

January-30-14 11:20:16 AM

112238

Page 1

Item ID: 646.9710 **646.9710**
Revision ID: **B112238**
Item Name: Body
Start Date: 1/30/14 Start Qty: 5.00 ***5***
Required Date: 1/30/14 Req'd Qty: 5.00 ***5***
Reference:

Accept

N900040100

Setup Start ***NS1***
Stop ***NS2***

Cust Item ID:
Customer:

Approvals: Process Plan: MLJ Date: 14-01-31
QC: _____ Date: _____

Tooling: _____ Date: _____
SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.9700	C								

100

100

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blank at 7.425"

0.00

0.00

DR 14/02/265

110

110

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB130

DWG REV: CFOLIO REV: AA

2- deburr and break all sharp edges

0.00

0.00

DR 14/02/285

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube <input type="checkbox"/></td> <td style="width:15%;">Crosstube <input type="checkbox"/></td> <td style="width:15%;">Water Jet <input type="checkbox"/></td> <td style="width:15%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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112238

Page 2

Item ID: 646.9710

Revision ID:

Item Name: Body

Start Date: 1/30/14

Start Qty: 5.00

5

Required Date: 1/30/14

Req'd Qty: 5.00

5

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals:

Process Plan: _____

Date: _____

QC: _____

Date: _____

Tooling: _____

Date: _____

SPC (Y/N): _____

Date: _____

Run Start

NR1

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

Dr 14-02-28

5

✓

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.00

Quality Control

D.A. 14/03/14

5

✓

DAS
08
289

131

Memo

0.00

131

HandFinish

Hand Finishing

Clean & remove markings (acid etch only)

0.00

N/A

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 112238

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Page 3

Item ID: 646.9710

Revision ID:

Item Name: Body

Start Date: 1/30/14

Start Qty: 5.00

5

Required Date: 1/30/14

Req'd Qty: 5.00

5

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals:

Process Plan: _____

Date: _____

QC: _____

Date: _____

Tooling: _____

Date: _____

SPC (Y/N): _____

Date: _____

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

140

Outsource process-Anodize per QSI017 4.1.10.1

140

Outsource4

Outsource process - Anodize

Memo

Issue P/O to ATG : 23452

1- Black Anodize as per Dwg 646.9700

2- PRIME AS PER DWG, SEE NOTE #2

Certification of Comformity is required

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

0.00

0.00

C214/03/21 5

150

Receive & Inspect for Damage & Mat'l Certs

150

Packaging

Packaging

Memo

0.00

0.00

P4/4/3 (8)

155

QC5- Inspect part completeness to step on W/O

155

QC

Quality Control

Memo

0.00

0.00

5

DAS

27

9/89

14/4/4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 112238

January-30-14 11:20:17 AM

112238

Page 4

Item ID: 646.9710

Revision ID:

Item Name: Body

Start Date: 1/30/14

Start Qty: 5.00

5

Required Date: 1/30/14

Req'd Qty: 5.00

5

Reference:

Accept

N900040100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals:

Process Plan: _____

Date: _____

QC: _____

Date: _____

Tooling: _____

Date: _____

SPC (Y/N): _____

Date: _____

Run Start

NR1

Stop

NR2Sequence ID/
Work Center IDOperation
Description

180

Identify as per dwg & Stock Location: CA***180***

Packaging

Packaging

Memo

IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV

Set Up/
Run Hours

0.00

0.00

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp5xDAS
28
9-89APR 07 2014

190

QC21- Final Inspection - Work Order Release

190

QC

Quality Control

Memo

0.00

0.00

MLS 14-04-09① 4-04-07

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Picklist Print

January-30-14 11:20:16 AM

Page 1

Work Order ID: 112238

Parent Item: 646.9710

Parent Item Name: Body

Start Date: 1/30/14

Required Date: 1/30/14

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A NEW ISSUE 12/10/04 JFS VERIFY BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B5.000X1.000 7075-T6 BAR 5.000" X 1.000"		Purchased	No			100	f	218.3800	0.62	4			

Location

Loc Qty

Loc Code

MAT008

218.38

125554

2

M125997

1

M126981

36

→ M127481

179.38

4 ml 1/4/02/26

DQA: _____ Date: _____



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Material									
Operator									
Offset/Setup									
Process									
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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--

DART AEROSPACE LTD		Work Order:	112238
Description: Body		Part Number:	646.9710
Inspection Dwg: 646.9700 Rev: C		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.13 x 45°	+/-0.010 x 0.5°	.135 x 45°	✓		DR 16	8" VERN
1.500	+/-0.005	1.498	✓		"	"
0.352	+0.005/-0.000	.354	✓		GAUGE	BLOCKS
0.10 x 45°	+/-0.010 x 0.5°	.110 x 45°	✓		DR 16	8" VERN
0.875	+/-0.005	.872	✓		"	"
0.700	+/-0.005	.701	✓		"	"
5.500	+/-0.005	5.502	✓		"	"
0.660	+/-0.005	.658	✓		HEIGHT GAUGE	
0.660	+/-0.005	.658	✓			
0.278	+/-0.002	.276	✓			
0.339	+/-0.002	.337	✓			
0.352	+/-0.002	.350	✓			
0.372	+/-0.002	.370	✓			
1.067	+/-0.002	1.065	✓			
2.608	+/-0.002	2.606	✓			
2.750	+/-0.002	2.748	✓			
2.892	+/-0.002	2.890	✓			
3.348	+/-0.002	3.346	✓			
3.597	+/-0.002	3.595	✓			
3.847	+/-0.002	3.845	✓			
0.351	+/-0.002	.349	✓			
0.544	+/-0.002	.542	✓			
2.195	+/-0.002	2.193	✓			
2.304	+/-0.002	2.303	✓			
2.451	+/-0.002	2.450	✓			
2.639	+/-0.002	2.638	✓			
3.395	+/-0.002	3.394	✓			
3.495	+/-0.002	3.394	✓			
4.551	+/-0.002	4.550	✓			
4.595	+/-0.002	4.594	✓			
4.687	+/-0.002	4.686	✓			
4.734	+/-0.002	4.733	✓			
6.651	+/-0.002	6.650	✓			

DART AEROSPACE LTD		Work Order:	112238
Description: Body		Part Number:	646.9710
Inspection Dwg: 646.9700 Rev: C		Page 2 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.201	+0.005/-0.001	4.201	✓		DIN GAUGE	
Ø0.177	+0.005/-0.001	.177	✓		DIN GAUGE	
7.026	+/-0.005	7.025	✓		DR 16	VERN 8"
4.245	+/-0.005	4.247	✓		DR 16	VERN 8"

Measured by: DK	Audited by: DAS 08	Preliminary Approval:
Date: 14-02-28	Date: 14/03/14	Date:

Rev	Date	Change	Revised by	Approved
A	13.06.03	New Issue	KJ	
B	13.07.18	Dwg Rev updated	KJ	
C	14.01.21	Dwg Rev updated	KJ	

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 04039

SHEET 1 OF 1

DWG NO. 646.9700

REV: B

PREPARED
BY

D. PETERS

DATE: 08/09/13

EFFECT ON DWG
☒ INC. ☐ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY:

ENGR

MFG

QC

EFF:

NEXT ORDER

TRANSACTION CODES (TC):
A-ADD C-CREATE
R-REVISE D-DELETE

REASON: MARKED INSPECTION DIMENSIONS

ECR:

NONE

112238 mcs
1401-31

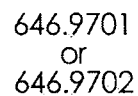
DOCUMENTS EFFECTED:

☐ RFMS ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM

CHANGE CATEGORY
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED
☐ YES ☒ NO

REV.		DESCRIPTION	DATE	APPROV.
		LAST PROTOTYPE REVISION: P87		N/C
N/C		INITIAL RELEASE	03/29/09	P. BRAVO
A		INCORPORATED ECH 00744, 00808, 03717	06/06/13	P. BRAVO
B		INCORPORATED ECH 03366	07/02/13	P. BRAVO
C		INCORPORATED ECH 03367	08/09/13	P. BRAVO



① MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12

② FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III;
CLASS 2, COLOR BLACK;
PRETREAT PRC-DESOTO PR-148 ADHESION PROMOTER;
PRIME IAW MIL-P-23377 J TYPE I CLASS N; 1-2 MIL MAX

③ MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS

④ FINISH: PRIME IAW MIL-P-23377 J TYPE I CLASS N; 1-2 MIL MAX

5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED

6. IDENTIFY IAW MPP-120

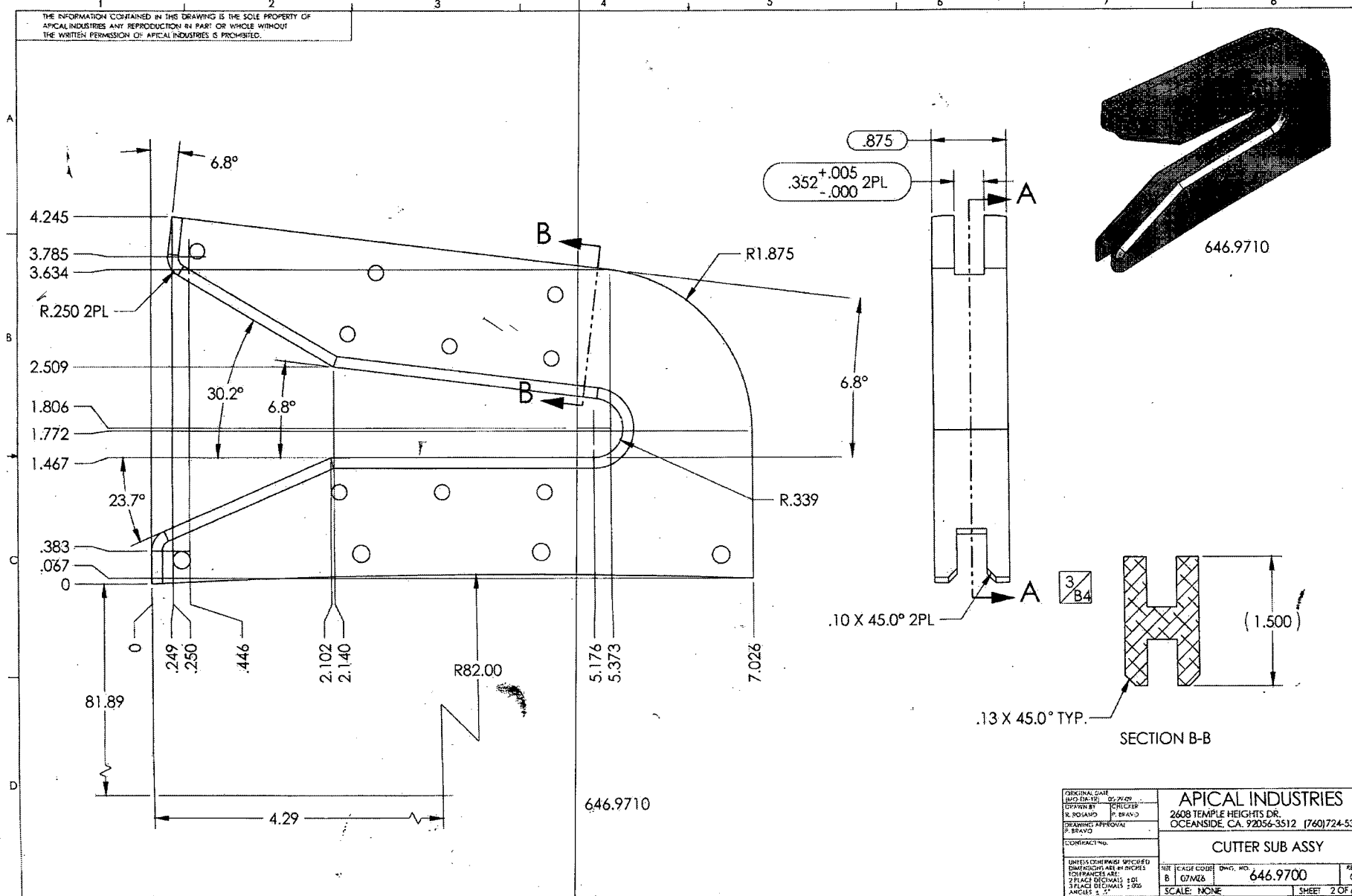
⑤ APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY

⑥ CUTTING EDGE INTENDED TO BE SHARP. DO NOT BREAK SHARP EDGE

⑦ ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.

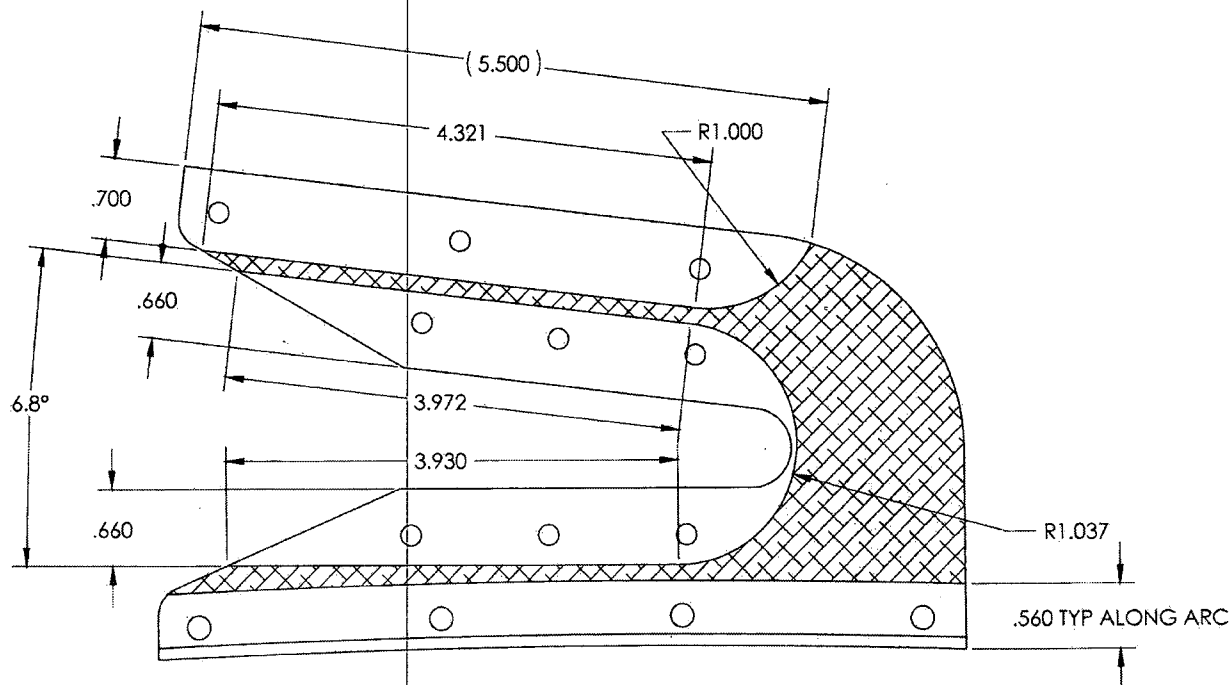
1	7	646.9712	BODY (U CHANNEL)	△	△
6	6	601.1541	LOCKNUT	N521042L08	
A/R	A/R	601.2764	RTV. LOCITE 598		
12	12	601.2764	WASHER	NAS114TENS5P	
6	6	601.2765	SCREW	NAS27338-0819	
2	2	646.9711	BLADE	△	△
	1	646.9710	BODY	△	△
△		646.9702	CUTTER SUB ASSY W/ CHAMFER		
		646.9701	CUTTER SUB ASSY		
QTY	QTY	FIND #	PART #	DESCRIPTION	SPEC.
NEXT ASSY (S)			PARTS LIST		
646.9600			APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300 CUTTER SUB ASSY		
QUANTITY DATE INQ DA-787 05-27-09 QUANTITY BY P. BERNARD J. BEAVIS DRAWING APPROVAL 04-29-20 COMING INC.			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS = .001 2 PLACE DECIMALS = .01 1 PLACE DECIMALS = .05 ANGLES = .1°		
SHEET NO. 1 OF 1 SCALE: NONE			SHEET NO. 1 OF 1 SCALE: NONE		

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ORIGINAL DATE REV. 10-10-00		APICAL INDUSTRIES	
DESIGNED BY R. POLANO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAYO		CUTTER SUB ASSY	
CONTRACT NO.		REV. C	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SHEET 2 OF 6	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

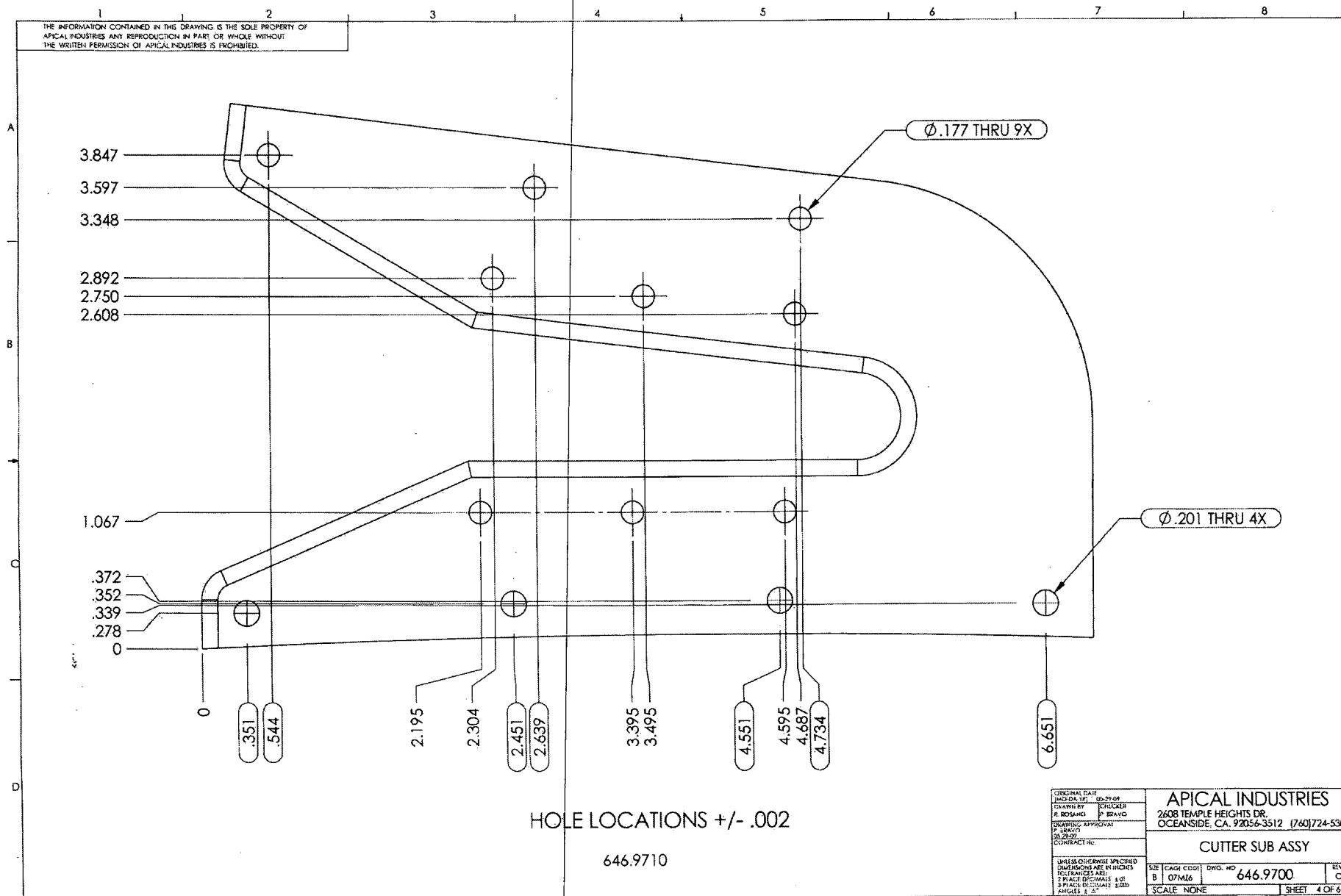


SECTION A-A $\frac{2}{C6}$

646.9710

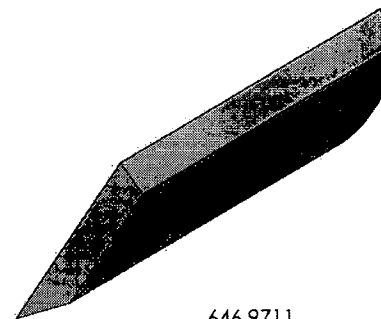
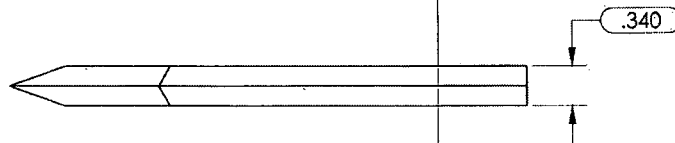
ORIGINAL DATE		APICAL INDUSTRIES	
DRAWN BY P. ROMANO		2608 TEMPLE HEIGHTS DR.	
CHECKED BY P. BRAVO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL		CUTTER SUB ASSY	
CONTRACT NO.		REV. C	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SUT CASE CODE B 07/02/16	QWTS. NO. 646.9700
SCALE NONE		SHEET 3 OF 6	

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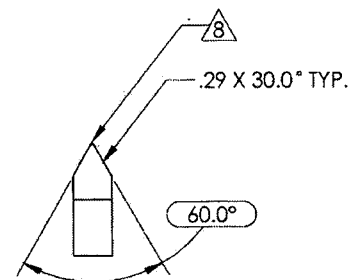
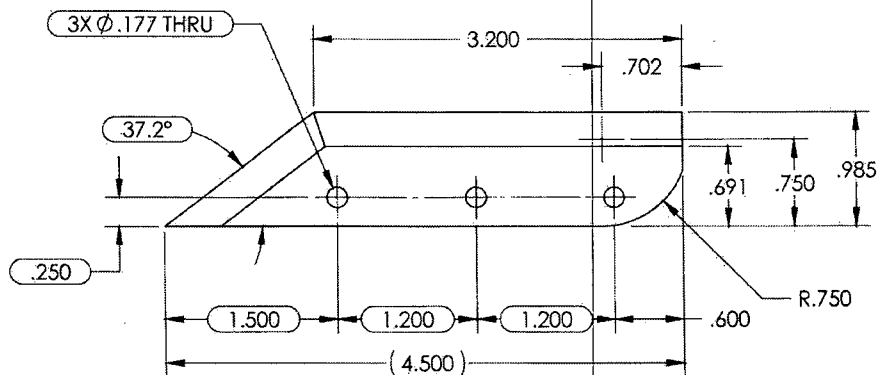


ORIGINAL DATE 1/20/01 151 00-29-08		APICAL INDUSTRIES	
DRAWN BY R. BOLAND	CHECKED BY P. BRAYO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAYO		CUTTER SUB ASSY	
CONTRACT NO.		SIZE (CASH CODE) B 07M26	DWG. NO. 646.9700
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .1°		SCALE NONE	REV C
		SHEET 4 OF 6	

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THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



646.9711



646.9711

ORIGINAL DATE 10/01/97		29-2008	
DESIGNED BY P. ECHIANO	ENGINEERED BY P. ECHIANO	APICAL INDUSTRIES	
DESIGNED BY P. ECHIANO	ENGINEERED BY P. ECHIANO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DESIGNED BY P. ECHIANO	ENGINEERED BY P. ECHIANO	CUTTER SUB ASSY	
DESIGNED BY P. ECHIANO	ENGINEERED BY P. ECHIANO	SCALE: NONE	SHEET 5 OF 6
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		DATE B 07/20/08	REV C
		DWG. NO. 646.9700	

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3.847
3.597
3.348
2.892
2.750
2.608

1.067
1.067
1.067
.339
.329
.319
.308
.296
0

0

.544

2.195

2.246

2.304

2.639

3.395

3.426

3.495

4.593

4.595

4.687

4.734

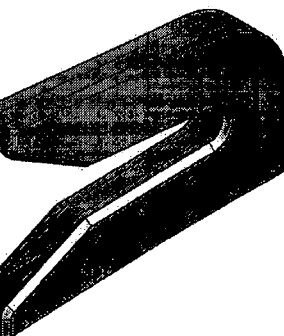
5.633

6.651

Ø.177 THRU 9X

Ø.201 THRU 5X

.350



646.9712 9

.875

646.9712

ORIGINAL DATE 05-09-09		APICAL INDUSTRIES	
DRAWN BY P. ROSARIO		2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL P. BRAVO		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CONTRACT NO.		CUTTER SUB ASSY	
UNITS: OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		SUR B	REV. C
TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .001 ANGLES ± .5°		CAGE CODE D7M26	UNCL. NO. 646.9700
		SCALE NONE	SHEET 6 OF 6

Jean-Luc Menard

From: Pablo Bravo
Sent: March-14-14 1:54 PM
To: Jean-Luc Menard
Subject: RE: 646.9710 DEVIATION?

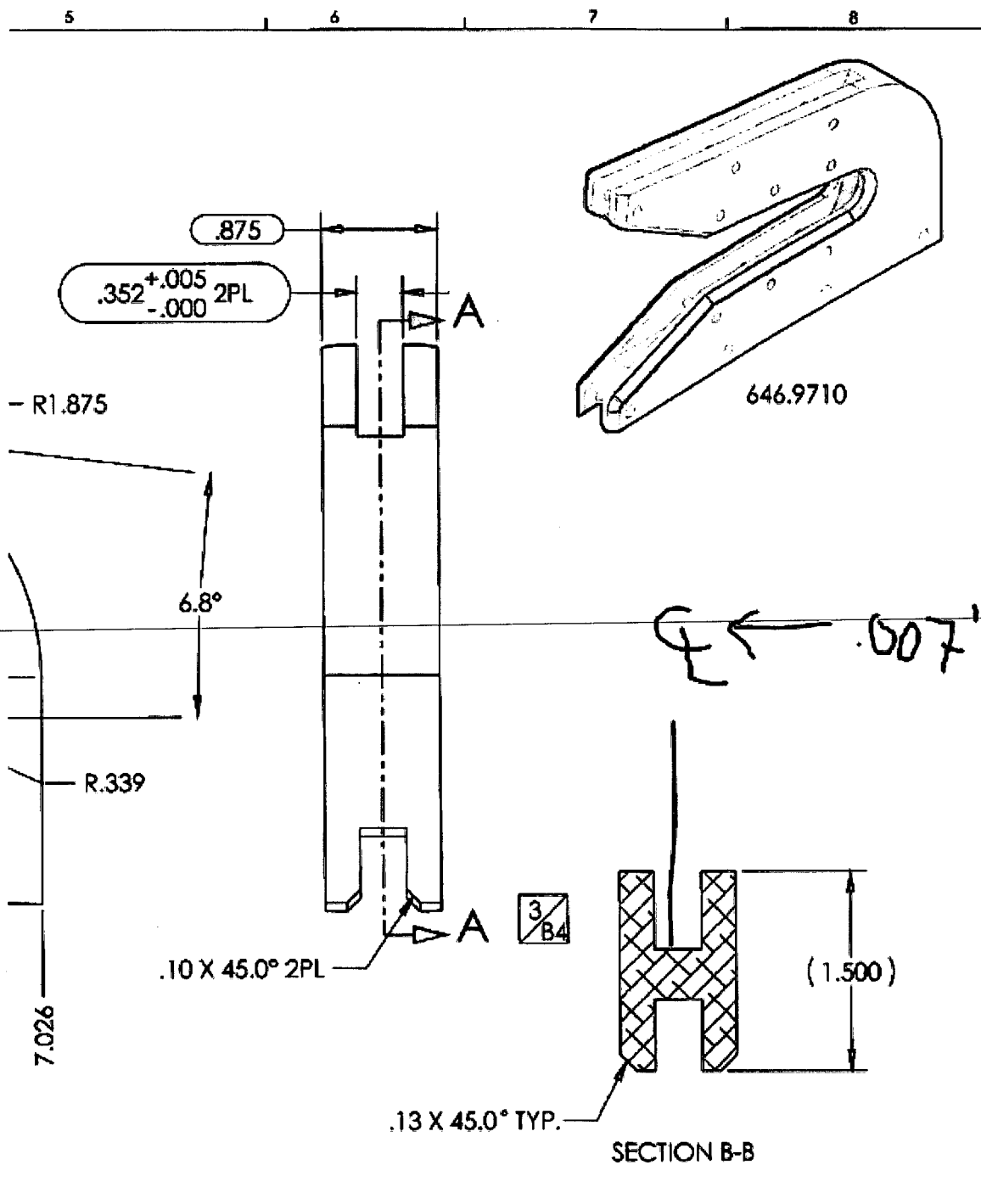
JL,

This should be okay. I think we can make adjustments on the struts to take up the gap.

Pablo

From: Jean-Luc Menard
Sent: Friday, March 14, 2014 10:51 AM
To: Pablo Bravo
Subject: 646.9710 DEVIATION?

Hi Pablo,
Is this acceptable?
Part is off center line .007".
See below,
THX
JL



Jean-Luc Ménard
Production Engineering Supervisor

DART AEROSPACE
T 1 613 632-5200 > 227
F 1 613 632-5246
1 800 556- 4166
www.dartaerospace.com



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO23452**

Purchase Order Date 3/21/2014

PO Print Date 4/3/2014

Page Number 1 of 2

Order From :

VC-ATG001

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Nbr	Reference	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Vendor Part Number		Promise Date				
	Line Comments						
	Delivery Comments						
1	114128	647.4410 RAIL	4/4/2014 No 4/4/2014		6.00	\$10.80	\$64.80
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N							
Line Total:							\$64.80
2	112238	646.9710 BODY	4/4/2014 No 4/4/2014		5.00	\$14.50	\$72.50
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N							
Line Total:							\$72.50
3	114126	647.1913 TEE	4/4/2014 No 4/4/2014		6.00	\$10.80	\$64.80
FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N							

Note:

4/3/2014



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 62965

Date: 03-Apr-14

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

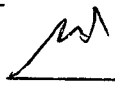
DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity	Description		
1 lot	Part: ASST Rev:		
	6 PCS 647.4410 (10.80) 5 PCS 646.9710 (14.50) 6 PCS 647.1913 (10.80) HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2 PRIME MIL-P-23377J TYPE I CLASS N PRICE IS PER PIECE Job: 20140193 PO: 23452 Line:		
<p align="center">Certificate of Conformance</p> <p>A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.</p> <p align="center">ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY</p> <p>DATE: <u>3/4/14</u></p> <p>CERTIFIED SIGNATURE: <u></u></p> <p>RECEIVER SIGNATURE: _____</p>			